

AN ADHESIVE DISPENSING ARRANGEMENT

BACKGROUND OF THE INVENTION

THIS invention relates to an adhesive dispensing arrangement for dispensing a substance over a particular area for treatment thereof.

Minor wounds and the like are advantageously treated with some form of antiseptic or anti-microbial ointment prior to being covered with a sticking plaster. The ointment is applied from a separate tube or dispenser either directly onto the affected skin area or onto the gauze of the plaster. This process is relatively time consuming, involving removal of the backing strip to reveal the gauze, removal of the cap on the tube of ointment, the application of ointment to the gauze and the subsequent application of the plaster to the skin surrounding the affected area. The treatment is also costly, in that an entire tube of ointment is purchased, only to be used once or twice before the remaining contents of the tube are typically discarded or reach an expiry date.

In addition, often the optimum dosage of ointment is not applied. Over-application generally results in the plaster not sticking properly, and under-application results in the wound not being treated adequately.

SUMMARY OF THE INVENTION

According to the invention there is provided an adhesive dispensing arrangement comprising an adhesive patch for covering an area to be treated, and provided with an adhesive surface for allowing the patch to stick to the area, a peelable backing covering the adhesive surface, a dispensing container sandwiched between the adhesive surface and peelable backing, and housing a substance to be dispensed over the area to be treated, an applicator arranged to facilitate the application of the substance over the area to be treated, and a release agent, the dispensing container being positioned to co-operate with the release agent which is arranged to cause the container to open or rupture on removal of the backing for releasing the substance and allowing it to be dispensed over the area to be treated via the applicator means.

In a preferred form of the invention, the applicator is maintained apart from the substance within the dispensing container and is arranged to be impregnated with the substance only after the container has ruptured, the applicator being interposed between the container and the peelable backing.

Preferably, the applicator means includes at least one absorbent pad secured to the patch along at least one marginal adhering zone, with a non-adhering zone of the pad being interposed between the dispensing container and the backing means for receiving the substance to be dispensed from the container after it has ruptured.

Conveniently, the release agent is adhesively secured to the peelable backing means, whereby the release agent is arranged to be simultaneously peeled away with the backing means to rupture or breach the container.

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Advantageously, the release agent comprises at least one aperture or rupturable zone defined in the container, and a removable sealing strip for sealing off the aperture, the sealing strip being arranged to expose the aperture on removal thereof.

Typically, the sealing strip extends between the container and the non-adhering zones of the pad, whereby the pad is arranged temporarily to splay outwardly to allow the sealing strip to exit as it is peeled away from the container.

In one form of the invention, a pair of absorbent pads are provided in the form of adjacent flaps, each flap being formed with outer marginal adhering zones which are secured to the patch and a pair of intermediate non-adhering zones which are interposed between the dispensing container and the peelable backing, with the container being secured to the patch along an intermediate adhering zone located between the outer marginal adhering zones of the flaps.

In an alternative form of the invention, the applicator is housed within the dispensing container, and is impregnated with the substance with which it is stored.

The release agent may comprise a rupturing aid for breaching or removing a rupturable zone on the container so as to provide an opening in the container.

In one form of the invention, the container comprises a rupturable sachet, the rupturing zone comprises a line of weakness arranged to facilitate the tearing away of a topmost wall of the sachet, and the rupturing aid is constituted by the extent to which bonding between the top wall of the sachet and a sealing or cover strip exceeds the line of weakness bonding.

Advantageously, the adhesive patch and the peelable backing define an outer sealed container within which the dispensing container is housed.

Typically, the adhesive dispensing arrangement is in the form of a sticking plaster or adhesive bandage arrangement in a medical application, with the substance including any form of medicament.

In an alternative form of the invention, the substance is arranged to treat selected areas, and is chosen from the group including dyestuffs, etchants, chemical treatments, pigments and catalysts.

BRIEF DESCRIPTION OF THE DRAWINGS

- Figure 1** shows an exploded perspective view of a first embodiment of an adhesive dispensing arrangement of the invention;
- Figure 2** shows a partly schematic cross-sectional assembled side view of the adhesive dispensing arrangement of Figure 1;
- Figure 2A** shows a partly schematic cross-sectional side view of the dispensing arrangement of Figure 2 in position on an area to be treated;
- Figure 3** shows an end-on view of one configuration of the dispensing arrangement of Figure 1;
- Figure 4** shows an end-on view of another configuration of the adhesive dispensing arrangement of Figure 1;

- Figure 5** shows an exploded perspective view of a second embodiment of an adhesive dispensing arrangement of the invention; and
- Figure 6** shows a partly schematic cross-sectional assembled side view of the adhesive dispensing arrangement of Figure 5.

DESCRIPTION OF EMBODIMENTS

The adhesive dispensing arrangement 10 illustrated in Figures 1 and 2 has as its main components a flexible cover strip or patch 12, a sachet 14, a sachet sealing strip 16, a pair of parallel gauze flaps 18A and 18B, and a peelable backing strip 20. The cover strip 12 has an inner adhesive surface 22 which is uniformly tacky, apart from non-tacky corner zones defining finger-grippable tags 23. The sachet 14 is adhesively mounted to a central rectangular zone or footprint 24 of the tacky surface 22. Marginal rectangular zones 26A and 26B extend on either side of the central zone 24, and provide adhesive purchase for corresponding outer marginal zones 28A and 28B of the respective gauze flaps 18A and 18B. The inner marginal zones 28C of the gauze flaps do not adhere to the adhesive surface 22, but rather overlie the sachet and its sealing strip, as is clearly shown in Figure 2.

The sachet 14 is filled with the suitable material to be dispensed, such as an antiseptic or anti-microbial ointment 30. Opposite minor ends 32A and 32B of the sachet are heat sealed, and the exposable surface 32 of the sachet is formed with a series of regularly spaced apertures 34 through which the ointment 30 may be dispensed. The sachet sealing strip 16 is formed with a central sachet sealing segment 16A, the underside of which is tacky for releasably sealing off the apertures 34 to provide a protective sealed environment for the ointment 30. The sachet sealing strip is also provided with intermediate bridging segments 16B which together correspond to the

difference in length between the sachet 14 and the cover strip 12. Outer tag segments 16C protrude beyond the side edges of the cover strip 12.

The top side of the central sealing segment 16A, on which the inner marginal zones 28C of the flaps rest, is non-adhering. The entire underside of the peelable backing strip 20 is mildly adhering, to the extent that a continuous outer peripheral seal is provided between the cover strip 12 and the peelable backing strip 20, so that the intermediate sachet 14, sachet sealing strip 16 and gauze strips 18A and 18B are protected against the ingress of dirt and other contaminants, as well as the possible ingress of moisture. Likewise, the outer peripheral seal prevents the egress of the aforementioned sandwiched components or their constituents. The undersides of the intermediate segments 16B adhere mildly to the adhesive surface 22, whilst the top sides of the intermediate and/or outer segments 16B and 16C are arranged to adhere relatively strongly to the peelable backing strip 20. To this end, the outer segments 16C may be folded over to the top side of the peelable backing strip in the manner illustrated in Figure 4 to obtain additional purchase. In summary, the combined adhesion of the sachet sealing strip 16 to the peelable backing strip is greater than the combined adhesion of the sealing strip 16 both to the cover strip 12 and to the exposable surface 32 of the sachet.

The dispensing plaster is used in the following manner. The peelable backing strip is first removed by gripping adjacent non-adhering corner tags 23 and 20A and pulling them apart from one another. The sachet sealing strip 16 is carried with the backing strip as it is peeled away by virtue of the aforementioned stronger bond that it has with the backing strip 20. The apertures 34 are successively exposed as the sachet sealing strip 16 is removed, with the central portion of segment 16A of the sealing strip being pulled through the ever-widening gap 36 between the gauze flaps 18A and 18B as their central non-adhering portions lift and separate. The gauze flaps 18A and 18B revert to a substantially flattened condition after removal of the

backing strip 20 and the accompanying sachet sealing strip 16 to at least partly cover the exposed sachet apertures 34.

The remaining assembly comprising the cover strip, the newly vented or ruptured sachet 32 and the gauze flaps 18A and 18B are now ready for application. At this stage, an initial release of ointment 30 or the like into the overlying gauze flaps 18A and 18B may commence. As is shown in Figure 2A, the assembly 37, which essentially resembles a modified gauze sticking plaster, is applied to the affected area, with the gauze flaps 18A and 18B covering the wound or affected area 48A and the tacky surface 22 of the cover strip adhering to the surrounding skin 48B. Slight finger pressure on the exposed surface 50 of the cover strip 12 will cause further dispensing of the ointment 30 in the sachet through the apertures 34 for infusion into the gauze flaps 18A and 18B and ultimate treating contact with the wound. Even spacing of the apertures 34 ensures an evenly spread infusion of the ointment into the gauze flaps 18A and 18B.

In medical applications, the substance to be dispensed is not limited to an ointment, but may be more free-flowing and liquid in form. Typical medical preparations may include anti-microbial, antibacterial, antiviral and antiseptic agents, as well as antibiotics and anti-fungal agents. The substances may also include corticosteroids either singularly or with anti-infective agents, local anaesthetic agents and anti-psoriatic preparations. Salicylic acid, silicone gel, and anti-inflammatory agents may also be incorporated. The contents of the sachet may also include vitamin derivatives, hormones, hair growth stimulants, emollients and protectives, as well as anti-histamines and anti-metabolites. In a particular embodiment, the substance to be dispensed includes Bactroban®, a topical ointment made by SmithKline Beecham, a preparation of 2 grams of mupirocin in 100 grams of a water soluble base.

In the case of non-medical general purpose application, the cover strip may be of a more robust construction, and the substance to be dispensed may include, *inter alia*, a chemical, a dye, a pigment or a catalyst. If the substance to be dispensed has aggressive properties, or is extremely fluid, the sealing strip 16 may be omitted from the assembly, and suitable rupturing zones may be formed in place of the apertures 34. These rupturing zones remain intact under conditions of normal storage and handling, but are then encouraged to rupture subsequent to placement of the cover strip onto the surface to be treated. Rupturing of the sachet may be induced by additional pressure on the outer surface 50 of the cover strip after it has been stuck onto the area. The sachet sealing strip 16 may be replaced by an appropriate length of cord or other rupture-inducing means extending into and anchored within the sachet for at least initiating rupturing of the sachet along a weakened zone.

In one form of the invention, the sealing strip 16 or other contents release means may be made to operate independently of the peelable backing strip 20. For example, the cover strip may be positioned over the area to be treated with the sachet intact, after which the sealing strip or the like is removed so as to rupture the sachet and begin the dispensing process.

It will be appreciated that the shape and orientation of the various components described above is almost unlimited, and that a single gauze flap may be used in place of a pair of flaps. In a still further modification, a single gauze pad bridges the sachet transversely, and is adhesively anchored to both of the marginal zones 26A with the sachet sealing strip 16 being removed by pulling it along its axis in the direction of arrow 52. In this case, the strip may be at least twice as long as the sachet, and folded double, with the upper free end of the strip being gripped to promote a peeling effect.

In a still further variation, the gauze and the sachet may contain different substances, which, when mixed on rupturing to the sachet, react to cause the

desired effect on the surface to be treated. More than one sachet, or a multi-compartment sachet may also be used, each rupturable compartment containing miscible substances.

In Figure 3, an end-on view of the end face of an assembled adhesive dispensing arrangement 10 clearly illustrates the protruding outer segment 16C of the sachet sealing strip 16. In this version, the peelable backing strip 20 may be removed independently of the sealing strip 16, as opposed to the previously described Figure 4 version. The backing strip may in this case be a double length folded over strip of the type described above.

Referring now to Figure 5, a second embodiment of an adhesive dispensing arrangement 60 is shown which differs primarily from the first embodiment in that the gauze flaps 18A and 18B of Figure 1 are incorporated into a sachet 62 as a single gauze pad 64. The gauze pad 64 is typically impregnated with the substance to be dispensed, as is the case with paraffin gauze. Both the underside and the top sides of the sachet 62 are adhesively attached to the respective adhesive face 22 of the cover strip 12 and a lower adhesive face of a sachet sealing strip 66. A parting line or zone of weakness 68 runs around a low perimetral side wall of the sachet 62. The peelable backing strip 20 and the sachet sealing strip 66 co-operate in the same manner as was described with reference to Figure 1. As the backing and cover strips 20 and 22 are peeled away from one another, the bond between the sealing strip 66 and the upper surface of the sachet 62 is sufficient to result in the topmost wall 70 of the sachet being torn away along the parting line 68 so as to expose the impregnated gauze pad 64. The exposed gauze pad 64 and cover strip 12 are then applied to the area to be treated in the manner of a conventional sticking plaster subsequent to the removal of its backing strip.

The assembled dispensing arrangement 60 is shown in Figure 6. It will be appreciated that both the gaps and the material thicknesses in Figures 2 and 6

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are not illustrative, but merely serve to indicate more clearly the different components making up the arrangements. In both Figures 2 and 6, the hatched line interfaces are indicative of adhesive bonds existing at the interfaces.

The impregnated gauze pad allows for more even and immediate distribution of the ointment or the like over the wound area. Such immediate distribution could result in the soaked gauze pad inadvertently contacting the skin surrounding the wound or treatment area.

In a still further embodiment of the invention, the sachet sealing strip 66 may be removed completely, with the top wall 70 of the sachet adhering to the underside of the peelable backing strip 20. As was the case with the sealing strip, the adhesion between the backing strip and the top wall 70 of the sachet would be sufficient to cause the top wall of the sachet to tear away completely along the parting line 68 so as to expose the impregnated gauze 64.

Typically, the sachet is manufactured and filled during a separate manufacturing operation, after which it is incorporated with the other components of the dispensing arrangement. A number of advantages are attached to the provision of a separate sachet. Such sachets may be filled with specialized medicaments which are customarily not produced by plaster/adhesive bandage manufacturers. The sachets may then be transported to a specialist plaster or adhesive bandage manufacturer. In addition, where non-uniform conditions of sterility exist, in that the sachets need to be manufactured and filled under more stringent conditions than the manufacture of the adhesive bandages, different production lines having different sterility requirements.

In a still further embodiment, the top wall 70 of the sachet may effectively be constituted by the backing strip itself, with the gauze pad 64 being anchored

directly onto the cover strip 12. In this even simpler version, the cover strip 12 and peelable backing strip 20 in combination effectively provide the sachet within which the gauze pad 64 is sealed. A more rigorous and continuous outer peripheral seal is provided between the cover strip 12 and the backing strip 20 for securely containing the gauze pad 64 and its contents.

A significant advantage of the present invention, and in particular the preferred embodiments in which a separate sachet is provided, is that the sachet constitutes an effective barrier to prevent cross-contamination either from or into the sachet. The substance to be dispensed may be incorporated into this sachet under sterile conditions. Further, the dispensing of the ointment occurs directly after the backing strip has been removed, thereby reducing the chances of contamination. This procedure differs considerably over typically non-sterile conditions in which ointment from a separate potentially contaminating tube is dispensed onto the gauze pad of conventional medical plasters. The outer peripheral tacky zone of the cover strip seals and surrounds the ointment, the gauze pad(s) and the wound, thereby promoting wet wound healing.

CLAIMS

1. An adhesive dispensing arrangement comprising an adhesive patch for covering an area to be treated, and provided with an adhesive surface for allowing the patch to stick to the area, a peelable backing covering the adhesive surface, a dispensing container sandwiched between the adhesive surface and peelable backing, and housing a substance to be dispensed over the area to be treated, an applicator arranged to facilitate the application of the substance over the area to be treated, and a release agent, the dispensing container being positioned to co-operate with the release agent which is arranged to cause the container to open or rupture on removal of the backing for releasing the substance and allowing it to be dispensed over the area to be treated via the applicator means.
2. An adhesive dispensing arrangement according to claim 1 in which the applicator is maintained apart from the substance within the dispensing container and is arranged to be impregnated with the substance only after the container has ruptured, the applicator being interposed between the container and the peelable backing.
3. An adhesive dispensing arrangement according to either one of claims 1 or 2 in which the applicator means includes at least one absorbent pad secured to the patch along at least one marginal adhering zone, with a non-adhering zone of the pad being interposed between the dispensing container and the backing means for receiving the substance to be dispensed from the container after it has ruptured.
4. An adhesive dispensing arrangement according to claim 3 in which the release agent is adhesively secured to the peelable backing means,

whereby the release agent is arranged to be simultaneously peeled away with the backing means to rupture or breach the container.

5. An adhesive dispensing arrangement according to claim 4 in which the release agent comprises at least one aperture or rupturable zone defined in the container, and a removable sealing strip for sealing off the aperture, the sealing strip being arranged to expose the aperture on removal thereof.
6. An adhesive dispensing arrangement according to claim 5 in which the sealing strip extends between the container and the non-adhering zones of the pad, whereby the pad is arranged temporarily to splay outwardly to allow the sealing strip to exit as it is peeled away from the container.
7. An adhesive dispensing arrangement according to any one of claims 4 to 6 in which a pair of absorbent pads are provided in the form of adjacent flaps, each flap being formed with outer marginal adhering zones which are secured to the patch and a pair of intermediate non-adhering zones which are interposed between the dispensing container and the peelable backing, with the container being secured to the patch along an intermediate adhering zone located between the outer marginal adhering zones of the flaps.
8. An adhesive dispensing arrangement according to claim 1 in which the applicator is housed within the dispensing container, and is impregnated with the substance with which it is stored.
9. An adhesive dispensing arrangement according to claim 8 in which the release agent comprises a rupturing aid for breaching or removing a

rupturable zone on the container so as to provide an opening in the container.

10. An adhesive dispensing arrangement according to claim 9 in which the container comprises a rupturable sachet, the rupturing zone comprises a line of weakness arranged to facilitate the tearing away of a topmost wall of the sachet, and the rupturing aid is constituted by the extent to which bonding between the top wall of the sachet and a sealing or cover strip exceeds the line of weakness bonding.
11. An adhesive dispensing arrangement according to any one of the preceding claims in which the adhesive patch and the peelable backing define an outer sealed container within which the dispensing container is housed.
12. An adhesive dispensing arrangement according to any one of the preceding claims in which the adhesive dispensing arrangement is in the form of a sticking plaster or adhesive bandage arrangement in a medical application, with the substance including any form of medicament.
13. An adhesive dispensing arrangement according to any one of claims 1 to 11 in which the substance is arranged to treat selected areas, and is chosen from the group including dyestuffs, etchants, chemical treatments, pigments and catalysts.

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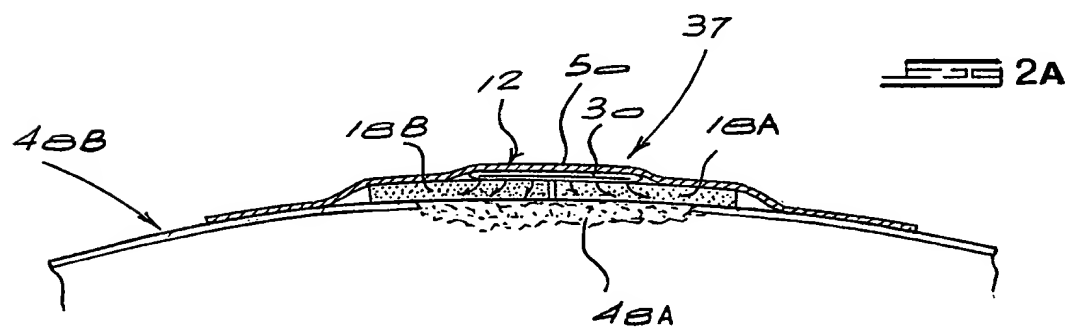
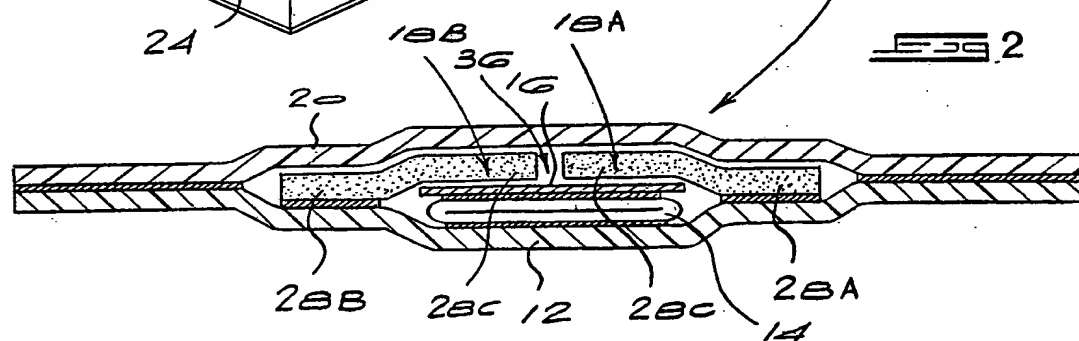
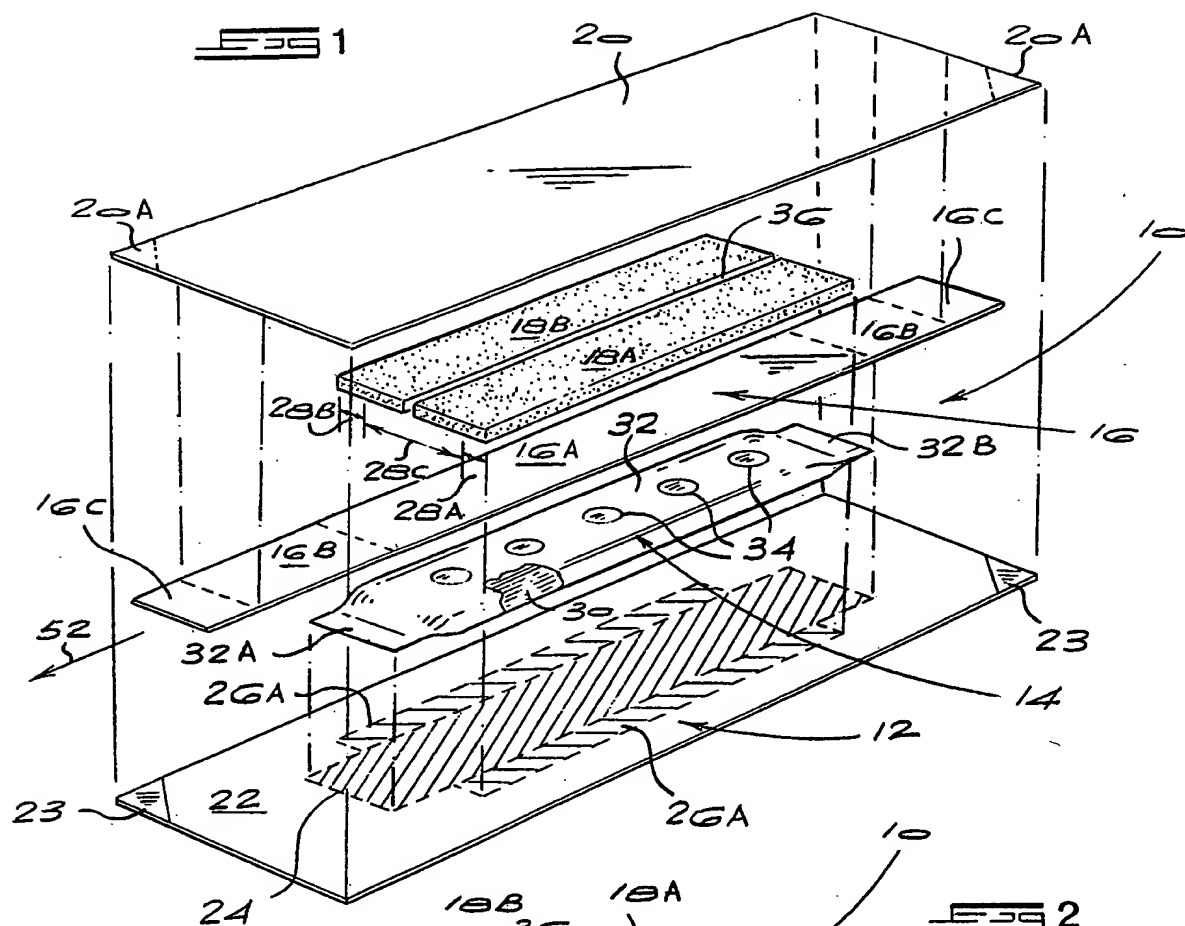


FIG 3



FIG 4

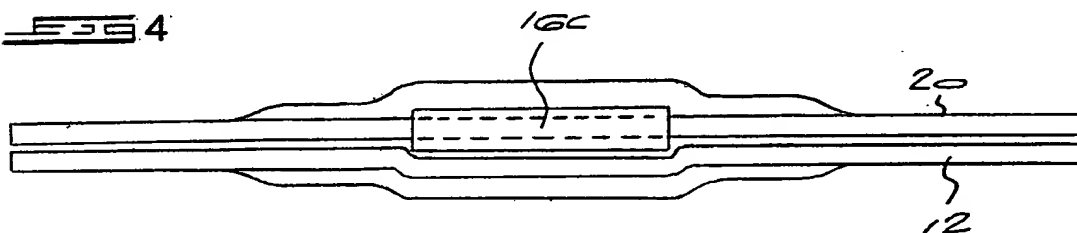


FIG 5

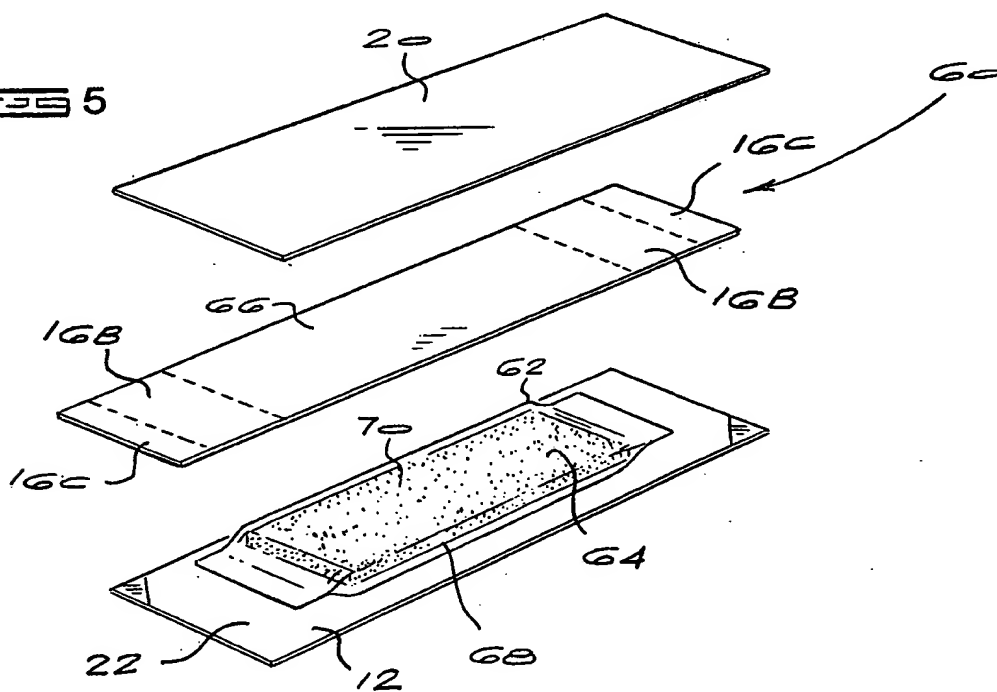
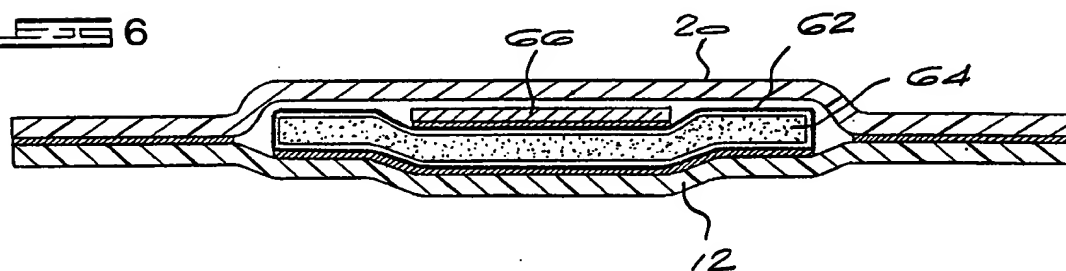


FIG 6



INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/IB 00/00217

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 4192299	A	11-03-1980	NONE	
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INTERNATIONAL SEARCH REPORT

International Application No

PCT/IB 00/00217

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A61K9/70 A61F13/02

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61F A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 192 299 A (SABATANO FRANK) 11 March 1980 (1980-03-11) the whole document ---	1,3-5, 11-13
X	EP 0 734 722 A (HISAMITSU PHARMACEUTICAL CO) 2 October 1996 (1996-10-02) column 6, line 7 -column 8, line 52; claims; figures ---	1,8-13
X	US 4 983 395 A (CHANG YUNIK ET AL) 8 January 1991 (1991-01-08) column 2, line 28 -column 4, line 26 ---	1,8
X	US 5 662 925 A (EBERT CHARLES D ET AL) 2 September 1997 (1997-09-02) column 2, line 60 -column 3, line 65; claims; figures --- -/--	1,8



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

3 July 2000

Date of mailing of the international search report

11/07/2000

Name and mailing address of the ISA

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Douskas, K

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference W/F/103	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/IB 00/ 00217	International filing date (day/month/year) 01/03/2000	(Earliest) Priority Date (day/month/year) 17/03/1999
Applicant GOLDBERG, Barbara, Sheila		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.



It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.



the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :



contained in the international application in written form.



filed together with the international application in computer readable form.



furnished subsequently to this Authority in written form.



furnished subsequently to this Authority in computer readable form.



the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.



the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

the text is approved as submitted by the applicant.



the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

the text is approved as submitted by the applicant.



the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

as suggested by the applicant.



because the applicant failed to suggest a figure.



because this figure better characterizes the invention.

1



None of the figures.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/IB 00/00217

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4 687 476 A (PAILIN ERIC) 18 August 1987 (1987-08-18) claims; figures ----	1
A	US 5 736 153 A (LAMERS JACOBUS STEPHANUS) 7 April 1998 (1998-04-07) the whole document ----	1-3
A	US 4 858 604 A (KONISHI RYUSAKU) 22 August 1989 (1989-08-22) claims; figures ----	1-3
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INTERNATIONAL SEARCH REPORT

Information on patent family members

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/IB 00/00217

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PATENT COOPERATION TREATY



PCT

REC'D 27 JUL 2001

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

14

Applicant's or agent's file reference W/F/103		FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/IB00/00217	International filing date (day/month/year) 01/03/2000	Priority date (day/month/year) 17/03/1999	
International Patent Classification (IPC) or national classification and IPC A61K9/70			
Applicant GOLDBERG, Barbara Sheila et al.			
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of sheets.</p>			
<p>3. This report contains indications relating to the following items:</p> <p>I <input checked="" type="checkbox"/> Basis of the report</p> <p>II <input type="checkbox"/> Priority</p> <p>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p>IV <input type="checkbox"/> Lack of unity of invention</p> <p>V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p>VI <input type="checkbox"/> Certain documents cited</p> <p>VII <input type="checkbox"/> Certain defects in the international application</p> <p>VIII <input type="checkbox"/> Certain observations on the international application</p>			
Date of submission of the demand 18/09/2000		Date of completion of this report 25.07.2001	
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465		Authorized officer Lindner, A Telephone No. +49 89 2399 8640 	

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/IB00/00217

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, pages:

1-11 as originally filed

Claims, No.:

1-13 as originally filed

Drawings, sheets:

1/2-2/2 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/IB00/00217

☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	
	No:	Claims	1-13
Inventive step (IS)	Yes:	Claims	
	No:	Claims	
Industrial applicability (IA)	Yes:	Claims	1-13
	No:	Claims	

**2. Citations and explanations
see separate sheet**

Re Item V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Reference is made to the following documents:
D1: US-A-4 192 299 (SABATANO FRANK) 11 March 1980 (1980-03-11)
D2: EP-A-0 734 722 (HISAMITSU PHARMACEUTICAL CO) 2 October 1996 (1996-10-02)
D3: US-A-4 983 395 (CHANG YUNIK ET AL) 8 January 1991 (1991-01-08)
D4: US-A-5 662 925 (EBERT CHARLES D ET AL) 2 September 1997 (1997-09-02)
2. D1 discloses an adhesive patch having an adhesive surface, a peelable backing covering the adhesive surface, a dispensing container (D1: Fig. 3, 14), sandwiched between the adhesive surface and the peelable backing, and having a substance to be dispersed over the area to be treated (D1: Fig. 3, 15), an applicator (D1: Fig 3, 13) and a release agent (D1: Fig. 3, 17) which is arranged to cause the container to open or rupture on removal of the backing. As a consequence, D1 discloses an adhesive patch comprising all the features as claimed in present claim 1. The requirements of article 33(2) PCT are therefore not met.
3. D2 discloses an adhesive patch having an adhesive surface (D2: Fig. 1, 26), a peelable backing covering the adhesive surface (D2: Fig. 1, 24), a dispensing container (D2: Fig. 1, 14 and 16), sandwiched between the adhesive surface and the peelable backing, and having a substance to be dispersed over the area to be treated (D2: Fig. 1, 12), an applicator (D2: Fig 1, 16) and a release agent (D2: Fig. 1, 20) which is arranged to cause the container to open or rupture on removal of the backing. As a consequence, D2 discloses an adhesive patch comprising all the features as claimed in present claim 1. The requirements of article 33(2) PCT are therefore not met.
4. D3 and D4 which in the search report are also cited as very pertinent documents are not relevant because of the fact that the dispensing container is not sandwiched between the adhesive surface and the peelable backing.

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/IB00/00217

5. With regard to dependent claims 2-13, it is noted that a positive opinion can only be given, if they refer to independent claims that meet the requirements of the PCT.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/IB 00/00217

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A61K9/70 A61F13/02

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61F A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EP0-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 192 299 A (SABATANO FRANK) 11 March 1980 (1980-03-11) the whole document ---	1,3-5, 11-13
X	EP 0 734 722 A (HISAMITSU PHARMACEUTICAL CO) 2 October 1996 (1996-10-02) column 6, line 7 -column 8, line 52; claims; figures ---	1,8-13
X	US 4 983 395 A (CHANG YUNIK ET AL) 8 January 1991 (1991-01-08) column 2, line 28 -column 4, line 26 ---	1,8
X	US 5 662 925 A (EBERT CHARLES D ET AL) 2 September 1997 (1997-09-02) column 2, line 60 -column 3, line 65; claims; figures --- -/-	1,8

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"8" document member of the same patent family

Date of the actual completion of the international search

3 July 2000

Date of mailing of the international search report

11/07/2000

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INTERNATIONAL SEARCH REPORT

Intern. Application No

PCT/IB 00/00217

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4 687 476 A (PAILIN ERIC) 18 August 1987 (1987-08-18) claims; figures ---	1
A	US 5 736 153 A (LAMERS JACOBUS STEPHANUS) 7 April 1998 (1998-04-07) the whole document ---	1-3
A	US 4 858 604 A (KONISHI RYUSAKU) 22 August 1989 (1989-08-22) claims; figures ---	1-3
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